

Benchmark Briefing

Kit & Component Storage





Automating kits & component parts

The Kardex Shuttle supports high pick accuracy within kitting & picking process

FlightSafety International is the world's leading manufacturer of full flight simulators, visual systems and displays. With more than 40 Learning Centers worldwide, 1,800 instructors, 3,000 courses on 135 aircraft types, FlightSafety International provides over a million hours of training each year on a wide variety of aircraft types.

In coordination with a new facility the stockroom implemented four, 36 foot tall Vertical Lift Modules Kardex Shuttle (VLMs) to manage components and kit inventory. The new automated picking and kitting process has reduced stockroom labor requirements by 86%, increased accuracy to 99.9% and reduced floor space by 85%.

Reduced
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by 86%

Increased
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to 99.0%

Saved
85% floor space

Case at a glance

Site

FlightSafety International, Broken Arrow, OK, Canada

Application

Manufacture Flight Simulators

Equipment

Four Kardex Shuttles with Kardex Power Pick System inventory management software



Inventory transparency

When FlightSafety moved into a new building, the stockroom was upgraded. Implementing four Kardex Shuttles reduced the footprint of the component and kitting areas in the new facility from roughly 6,454 square feet to 960 square feet, an 85% floor space savings!

Previously with the shelving system, there was unlimited access to inventory. This area was not secure and without inventory personnel available after hours to monitor parts movement, inventory parts would come up missing, creating an untraceable loss in inventory. "After implementing the Kardex Shuttles, inventory is much more accurate," says Halsey, "The VLM operators are given access to the machine, but each transaction is now monitored and recorded electronically in the inventory management software."

Stockroom troubles

With demand on the rise, the stockroom needed more efficiency and control. "Component parts and kits were stored in cardboard boxes on shelving, making order fulfillment a time consuming, labor intensive process with inventory susceptible to shrinkage," says Mike Halsey, Director of Manufacturing and Material Management. The stockroom was struggling to support the cutting-edge manufacturing line with their manual processes.



4 Kardex Shuttles



Kardex Power Pick System
inventory management software



10-position batch station

Automation – benefits and processes

Reassigning labor

The old shelving system required seven people in the components area and seven people in the kitting area. Since installing the Kardex Shuttles, only one person is required in the components area and one person in the kitting area. With labor reduced by 86%, other workers have been reassigned to different areas of the warehouse to increase efficiencies. "Time spent walking and searching for parts and kits has been eliminated, allowing our staff to spend time on other important tasks such as replenishment," says Halsey.

Accuracy takes off

A primary catalyst for implementing the Kardex Shuttles was the ability to increase accuracy. "The opportunity for human error was affecting our pick accuracy and impacting manufacturing," says Halsey. In the event of a mispicked part, not only did the incorrect part make it to the manufacturing floor in the first place, that part needed to be received back into the shelving area while the new part was picked and delivered to the production line. "When the wrong part makes it to manufacturing, it used to cause a shutdown – with the VLMs that doesn't happen now," says Halsey.

With the Kardex Shuttles, there is limited to no opportunity for error. Integrated with pick-to-light technology, the operator is directed throughout the picking process. "Accuracy is at 99.9% - up from the mid 90%'s," says Halsey.

Speeding processes

Components zone

There is a 10-position batch station located next to the Kardex Shuttles allowing the operator to pick up to 10 orders at a time. The operator selects up to 10 orders and assigns a tote on the batch station to each individual order, and with the touch of a button the picking process starts. Delivered to an ergonomic height, pick lights direct the operator to the appropriate location, displaying the part number and the quantity to pick. Once the first part in the order is picked, the operator confirms the pick with a task complete button, or with the Kardex Shuttle confirmation bar. A bar coded label is printed and the operator bags and tags the part for movement down the conveyor to the kitting VLMs.

Each position on the batch station is fitted with a put light that directs the operator in which orders to put the parts picked from the Kardex Shuttle. While the operator distributes the parts among the orders in the batch, the VLM is delivering the next part to the access opening, eliminating wait time and maximizing productivity. As orders are completed, they are sent to kitting via conveyor.

Kitting zone

Upon arrival at kitting, the operator bar code scans each tote, placed at one of the 10 batch light positions, and the VLMs present a tray and uses the put-to-light to direct the operator to the exact location on the tray to store the kit. The kit can remain in the VLM buffer storage for up to 60- 90 days. The production floor sends a request to kitting to pull the appropriate kit number and the operator retrieves the kit requested from the Kardex Shuttle and delivers it to manufacturing.

Seamless operations

Using the four Kardex Shuttles, components and kits are now managed seamlessly within an automated process providing compact storage, high pick accuracy and inventory transparency.

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Mike Halsey, Director of Manufacturing and Material Management